



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

that these five classes are broken up again into forty-five smells, and each smell has a name! The author has, here and there, made a little blunder of an amusing, but not serious character. For instance, our old friend of the bogs, skunk cabbage, figures as *Pothos fætida*, under the head *odore alliaceo*, and again with the name *Simplocarpus* (sic) *fætidus* in the monotypic class *odore mefitico*; which is not so bad, after all. The volume is as attractive to entomologists as to botanists; both will find it full of suggestions in regard to examinations of flowers and their visitants; both will complain that a work so full of details should have no index. The table of contents is analytical and full, but does not replace the index which we have the right to expect.

RECENT BOOKS AND PAMPHLETS. — The Structure and Development of the Sting and Ovipositor of Certain Hymenoptera and the Green Grasshopper. By Dr. H. Dewitz. 8vo, pp. 26. (From Siebold and Kölliker's Zeitschrift.)

List of the Fishes, Tunicata, Polyzoa, Crustacea, Annulata, Entozoa, Echinodermata, Anthozoa, Hydrozoa, and Sponges known from Greenland. Compiled for the use of the British North-Polar Expedition. By Dr. Chr. F. Lütken. 1875. 8vo, pp. 115 to 197. London.

The Vertebrata of the Cretaceous Formations of the West. By E. D. Cope. United States Geological Survey of the Territories. Washington, D. C., 1875. 4to, pp. 303. With 57 lithographic plates. (For sale by the Naturalist's Agency, Salem, Mass.)

Recherches sur les Phénomènes de la Digestion chez les Insectes. By F. Plateau. Bruxelles. 1874. 4to, pp. 124, 3 plates.

Check List of the Noctuidæ of America North of Mexico. By A. R. Grote. I. Bombyciæ and Noctuelitæ. Buffalo, N. Y. 1875. 8vo, pp. 28, with a plate. (For sale by the Naturalist's Agency, Salem, Mass.)

The American Journal of Microscopy. New York Industrial Publication Co. Vol. I. No. 1. December, 1875. 8vo, pp. 12. Fifty cents a year, single number six cents.

The Illustrated Annual Register of Rural Affairs for 1876. Albany, New York: Luther Tucker and Son. No. 22. 12mo, pp. 134.

Synopsis of the Odonata of America. By Dr. H. A. Hagen. (From the Proceedings of the Boston Soc. Nat. Hist. xviii, 1875.) Boston, 1875. 8vo, pp. 76.

Bulletin of the United States National Museum. No. 1. Check List of North American Batrachia and Reptilia. By Edward D. Cope. (Department of the Interior, U. S. National Museum.) Washington, D. C. 1875. 8vo, pp. 104.

Die Gastrula und die Eifurchung der Thiere. By Ernst Haeckel. (From the Jenaische Zeitschrift, 1875.) With 7 plates. 8vo, pp. 106.

GENERAL NOTES.

BOTANY.¹

DICHOGAMY IN *EPILOBIUM ANGUSTIFOLIUM*. — That the anthers shed their pollen before the stigmas of that flower are in condition to receive it, is one of the observations of Sprengel, at the very beginning of our knowledge of this subject. But he seems not to have called attention to the additional security against close-fertilizing, caused by the recurving of the style during the early anthesis, while the pollen is shed-

¹ Conducted by PROF. G. L. GOODALE.

ding, and its erection afterwards so as to bring the now expanded stigmas into the line of the axis of the blossom. Nor does Lubbock allude to anything of the kind. This I shall elsewhere illustrate. The present object is to call attention to a point which I had not observed, but which is mentioned in a letter from a former pupil, Mr. W. M. Courtis; namely, that only seven of the stamens shed their pollen before the stigmas expand, the eighth anther opening afterwards; or in some flowers two anthers are thus late; "as if it might be nature's plan to insure cross-fertilization if possible, but if not, self-fertilization would be possible." This should be looked after next summer. — A. GRAY.

DIMORPHISM IN CLAYTONIA. — The number of hermaphrodite flowers in which either dichogamy or dimorphism is known to occur, already large, increases with attentive observation. Mr. E. L. Hankenson, of Newark, New York, finds two forms of *Claytonia Virginica*, and sends copious specimens; one form has an elongated style and short filaments; the other long filaments which equal or overtop the style, the latter, however, not absolutely shorter than in the counterpart form. It would be interesting to know if this holds true generally. — A. GRAY.

CHEILANTHES ALABAMENSIS. — As ferns are now much sought, it is worth recording that Mr. Walter Faxon last summer discovered this southern species within the limits of Gray's Manual, on Indian Creek at the boundary between Lee County, Virginia, and Claiborne County, Tennessee. — A. GRAY.

THE HOLLYHOCK PUCCINIA. — A note in the October NATURALIST, by Mr. Meehan, in which he states that *Puccinia malvæsarum* has probably existed in this country for many years, leads me to say that ever since notices in foreign journals, regarding the sudden and widespread appearance of this fungus in Europe, have appeared, I have taken more notice than usual of all hollyhocks that I have met with (and the plants are abundant in this country, not only in cultivation but as garden weeds and scapes to roadsides), but have failed to find the *Puccinia*. On several occasions I have found at roadsides hollyhock plants whose leaves were densely covered with brownish spots, and having the same appearance as leaves infested with the *Puccinia* (of which I have many specimens from England and Germany); on examination, however, no fungus was found, but it appeared to me that the spots were of insect origin. If not the work of insects it may be possible that they were due to a species of *Phyllorticta* (*P. destruens* Derm.?) whose perithecia would have appeared later in the season. — W. R. GERARD.

VITALITY OF SEEDS. — H. Hoffmann reviews in the *Botanische Zeitung*, October 15 and 22, 1875, the vexed question of vitality of seeds. After giving references to the literature of the subject, which, by the way, he does not treat at all critically, the author describes experiments with *löss*, a diluvial earth found in the valley of the Rhine. When the railroad station Monsheim (at Worms) was built, the earth was dug away

to a depth of twelve feet. Some of the *löss* was taken with necessary precautions, and securely sealed until the following spring (1865). In May, twenty-four flower pots were half-filled with manure which had been heated in order to destroy any seeds present, and on this substratum some of the *löss* was placed, leaving an air space above, of two inches, and each pot was covered by a glass disk which had a bit of wood under one edge to allow access of air. The surface of the *löss* soon had plenty of ferns and mosses, just like those which are so abundant in all greenhouses. A few phænoganic plants came up; four which could not be determined accurately were supposed to be *Vaccinium myrtillus*, a second, a *Chrysanthemum Leucanthemum*; afterwards a third came up, a *Galium*, and finally an *Equisetum*. A second series of experiments, conducted with greater care to exclude all waifs, gave wholly negative results. Some molds, a coat of moss, and a single grass, *Festuca pratensis*, were the only plants within the bell-jars.

THE PRIMORDIAL UTRICLE. — Professor Pfeffer has lately studied the so-called primordial utricle, with the following results, which are given in the *Botanische Zeitung*, October 1st, from *Kölnische Zeitung*, 1875, 248. Protoplasm placed in contact with aqueous solutions becomes clothed on all sides with a delicate membrane caused by precipitation. This is the so-called primordial utricle. In protoplasm, certain albuminoids are dissolved, which separate out in water because their solvent is withdrawn. But this is limited to the surface of contact, because the membrane formed by precipitation does not allow the solvent to pass through. What this solvent is, has not been ascertained positively, but it is believed to be something beside the inorganic salts which, in egg-albumin, hold a protein substance in solution.

ORIGIN OF HIGH HYDROSTATIC PRESSURE IN VEGETABLE CELLS. — In the *Botanische Zeitung*, November 5th, there is an abstract of a communication made by Professor Pfeffer to the botanical section of the Association of German Naturalists and Physicians, at Graz, 1875, on the subject of the origin of high hydrostatic pressure in vegetable cells. This pressure, amounting sometimes to several atmospheres, even where there is only slight concentration of the fluid contents of the cells, led him, on theoretical grounds, to refer it to the molecular condition of the primordial utricle. This conclusion was confirmed by experiment. With contraction of the molecular interspaces, resistance to filtration increases, and likewise the pressure which is brought about endosmotically. Thus in the case of the precipitated membrane of ferrocyanide of copper (see Sachs's Text-Book, p. 597) a pressure of two atmospheres can be obtained, provided the film finds a suitable support, in a two per cent. solution of cane sugar. In the brief account given, there are no details as to the method of determining the amount of pressure. The resistance of the membrane to filtration is a complex force dependent on several variables, but with changes in this resistance, hydrostatic pressure is

changed; for instance, by heating, since thus the molecular interspaces are increased. This theory was then ingeniously applied to the explanation of periodic movements in plants.

BOTANICAL PAPERS IN RECENT PERIODICALS.—It is intended to give under this head the titles of the principal papers relating to botany and vegetable physiology, contained in the scientific journals and proceedings of societies. The enumeration will not always be exhaustive, nor will short notes or memoranda be mentioned unless of particular interest. A few of the following titles are at second-hand from Sklarek's *Repertorium der Naturwissenschaften*, October, 1875.

American Journal of Science and Arts, November, 1875. *Æstivation* and its terminology, by Prof. Asa Gray (gives the history, and discusses the question, of the proper term to be applied to the mode variously called *obvolute*, *contorted*, or *convolute*).

Bulletin of the Torrey Botanical Club, New York, October and November, 1875. Lichens of Kerguelen's Land, by Professor Edward Tuckerman. (Among the species collected by Dr. Kidder in the U. S. Transit Expedition is a new genus, *Urceolina*.) Notes upon *Anychia dichotoma*, by John H. Redfield (suggests the reestablishment of two species). Dimorphism or trimorphism in *Pontederia cordata*, by W. H. Leggett.

The Journal of Botany, British and Foreign, November, 1875. Descriptions of new plants from the Nicobar Islands, etc., by S. Kurz (giving also a short account of the principal features of the vegetation of this group in the Indian Ocean). New lichens from Kerguelen's Land, by the Rev. J. M. Crombie. Professor Tuckerman's paper in the October number of the Bulletin of the Torrey Club has a month's priority.

Quarterly Journal of Microscopical Science, October, 1875, has two photographs of microscopic preparations of the resting spores of the potato fungus. Mr. W. G. Smith observes that the organisms now photographed are identical with the bodies found thirty years ago by Dr. Rayer, of Paris, and afterwards placed in the hands of Rev. Mr. Berkeley. These specimens are still in existence and have been photographed to the same scale as the recently found bodies. In the same journal Professor McNab gives a condensed translation of Dr. Oscar Brefeld's memoir on the life-history of *Penicillium*, a genus of low fungi to which the common pale blue mold belongs.

Journal of the Linnean Society, October 11th. Notes on the Gamopetalous orders belonging to the Campanulaceous and Oleaceous groups, by George Bentham (dealing with the development of the former group and the geographical distribution of both). Notes on the occurrence of "fairy-rings," by J. H. Gilbert. "The highly nitrogenous fungi flourished strikingly, and appeared in 'fairy-rings' on two plots only," in Mr. Gilbert's experiments. "On neither of these was nitrogen or potass applied as manure." On the characteristic coloring-matters of the red

groups of *Algæ*, by H. C. Sorby. Six different characteristic coloring-matters, soluble in water, have been detected and are here described. The six are referred to two typical coloring-matters, *Phycocyan* and *Phycerythrin*.

The Gardeners' Chronicle, November 20, 1875. Rue, a popular account of its historical and legendary associations. Autumn tints of trees, by J. McNab. *Garcinia mangostana*, by Mr. Prestoe, of Trinidad (an interesting description, with plates, of the fruit of the mangosteen).

Comptes rendus des Séances de l'Académie des Sciences, September 20, 1875. On the rôle of the protective sheath of the vascular bundles in herbaceous dicotyledons, by J. Vesque. On the development and structure of glands within the leaf, by J. Chatin. September 27th. Abnormal variation of hybrid plants, by Ch. Naudin.

Annales des Sciences Naturelles, Botanique, 1875-1-1. New researches respecting the *Mucorineæ*, by Ph. Van Tieghem. To be hereafter noticed.

Jahrbucher für Wissenschaftl. Botanik, Bd. X., heft 2. On the anatomy of leaves, by Reinke (with special reference to certain glands occurring on them). On the fertilization of *Basidiomycetes*, by Max Reess. Germination of the spores of *Cyathus* (a gastromycetous fungus), by R. Hesse. On the development of certain leaves, by A. B. Frank (treating chiefly of the theory of interposition).

Flora, 1875, No. 22. On growth, and the formation of chlorophyll, by C. Kraus. (The formation of chlorophyll does not retard growth.) No. 23. Abnormal fir-cones, by Döbner. On the action of vegetable acids on chlorophyll within the plant, by C. Kraus. (No effect produced unless the protoplasm and the contained chlorophyll are enfeebled.) No. 26, On abnormal cones, by A. Braun.

Botanische Zeitung, October 1st to November 5th, inclusive. Fertilization of species of *Agaricus*, by Dr. E. Eidam. In reports of societies: *Göttingen*, H. Conwentz shows that the microscopic anatomy of the vascular bundles may be sometimes used as a diagnostic character in ferns. *Bonn*: On the formation of the primordial utricle, by Professor Pfeffer (elsewhere noticed). *Leipsic*: An examination of certain lichens with respect to the Schwendener theory, by G. Winter (favorable to the theory). New *Peronosporæ*, by Schenk. On certain fungi, by G. Winter. On intercellular thickening in the cellular tissue of ferns, by Luerssen. On flesh-eating plants, by Reess and Will. (Investigations made before the appearance of Mr. Darwin's treatise, and generally confirming his results, by more technical methods of research.) On the origin of high hydrostatic pressure in vegetable cells, by Dr. Pfeffer (elsewhere noticed). On the morphology of vascular cryptogams, by Dr. Frank (comparing them with the lower grades). On the lower limits of sexuality in plants, by Dodel-Port. On fertilization, by Strasburger. On the plants of *Ætna*, by Professor Strobl. *Brandenburg*:

On the arrangement of the leaflets in ferns and cycads, by A. Braun. (The leaflets in the former have the posterior edge of the one leaf covering the anterior edge of the one behind it; the leaflets in cycads are the reverse of this. There are said to be a few exceptions in ferns.) *Halle*: On the anatomical structure of the roots of certain *Convolvulaceæ*, by Schmitz (This paper is of pharmaceutical interest, being devoted to the detection of adulterations in drugs of the order, such as jalap.) A contribution to the subject of the vitality of seeds, by H. Hoffmann (elsewhere noticed). Some other notices are unavoidably deferred.

ZOOLOGY.

THE EXTINCTION OF THE GREAT AUK AT THE FUNK ISLANDS. — Mr. Michael Carroll, of Bonavista, Newfoundland, has recently given me the following very interesting facts respecting the extermination of the great auk (*Alca impennis*) at the Funk Islands. In early life he was often a visitor to these islands, and a witness of what he here describes. He says these birds were formerly very numerous on the Funk Islands, and forty-five to fifty years ago were hunted for their feathers, soon after which time they were wholly exterminated. As the auks could not fly, the fishermen would surround them in small boats and drive them ashore into pounds previously constructed of stones. The birds were then easily killed, and their feathers removed by immersing the birds in scalding water, which was ready at hand in large kettles set for this purpose. The bodies were used as fuel for boiling the water. This wholesale slaughter, as may well be supposed, soon exterminated these helpless birds, none having been seen there, according to Mr. Carroll, for more than thirty years, and he expresses great doubt in respect to the existence of the species now anywhere about the islands of Newfoundland or Labrador. — J. A. ALLEN.

BEWICK'S WREN, *Thyothorus Bewicki*, is something of a rarity, I believe, in the Atlantic States, where its movements, and especially its breeding resorts, are not very well made out. It may, therefore, be worth while to here record the fact that it breeds in considerable numbers in these same mountains. I saw two or three individuals during my ride up and down the mountains; and, though I found no nests, the actions of the birds satisfied me that they were at home for the summer. — ELLIOTT COUES.

RANGE OF THE BAY IBIS. — A letter from Captain C. Bendire, U. S. A., to E. Dickinson, Esq., dated Camp Harney, Oregon, says, "I have lately discovered that *Ibis Ordi* breeds near here. An officer has sent me portions of a skin, sufficient for identification, and writes me that he saw the young birds, besides some forty old ones." — ELLIOTT COUES.

EARLY NESTING OF THE ANNA HUMMING-BIRD. — In the Ornithology of California, i. 359, I stated that the young of *Calypte Anna*